

Regarding the rejections of claims 6-10 under 35 U.S.C. § 112, second paragraph, the Examiner argued that the phrase "material layer" recited in claim 6 renders the claim indefinite alleging that the term "can mean anything and further the specification." Applicants respectfully disagree with the Examiner. Applicants' disclosure includes exemplary embodiments that render the term "material layer" clear. Further, Applicants disagree with the Examiner's position that the phrase "material layer" may further the specification and that one skilled in the art would be unable to determine what is defined by the phrase. This line of reasoning would unnecessarily restrict Applicants in the use of different terms, phrases, and/or expressions when claiming an invention. For example, under the Examiner's interpretation of 35 U.S.C. § 112, second paragraph, a claim that includes a term that may be interpreted beyond an original disclosure may be considered indefinite even though the same term is clearly supported for another interpretation by the same disclosure, which is an incorrect interpretation of Section 112, second paragraph. Because one of ordinary skill in the art can clearly determine the proper interpretations of the phrase "material layer" by merely reviewing Applicants' disclosure, the claim is not indefinite and the rejection of claims 6-10 under 35 U.S.C. § 112, second paragraph should be withdrawn.

Applicants respectfully traverse the rejections of claims 1-10 under 35 U.S.C. § 103(a) because Ye et al. and Lau et al., alone or in combination, fail to teach, or suggest all of the elements of these claims. Further, Applicants respectfully traverse the rejections of claims 1-10 under 35 U.S.C. § 103(a) because a prima facie case of obviousness has not been made by the Examiner.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met. first, the reference or references, taken alone or combined, must

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teach or suggest each and every element recited in the claims (See M.P.E.P. § 2143.03 (8<sup>th</sup> ed. 2001).) Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the referenced in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure" (See M.P.E.P. § 2143 (8<sup>th</sup> ed. 2001)).

Ye et al. teaches a method of etching patterned layers on a semiconductor wafer. The method involves providing several layers of material on the semiconductor wafer, including a photoresist layer that is removed to help form a patterned layer (e.g., element 220 in Figs 2A-2D). The Examiner admitted that Ye et al. does not teach shrinking a low dielectric pattern and relied upon Lau et al. to allegedly teach this step (see Office Action, page 3, lines 19-24).

Applicants disagree with the Examiner.

Claim 1 recites, among other things, forming a photoresist pattern whose width is equal to the exposure limit on a low-dielectric layer. The Examiner asserts that Ye et al. teaches this step in col. 21, lines 55-56, col. 22, lines 1-2, and col. 6, lines 5-21. Applicants disagree. Ye et al. does not teach, or even suggest, the relationship between the width of the photoresist pattern based on an exposure limit of layer supporting the pattern. The citations identified by the Examiner mentions the thickness of certain layers (e.g., layer 406), but does not disclose or suggest anything about at least the width of the pattern, much less the width being based on an exposure limit of a low dielectric layer. Additionally, Lau et al. does not teach or suggest at least forming a photoresist pattern as recited in claim 1.

Further, Lau et al. does not teach or suggest shrinking a low dielectric pattern formed on a multi-layered semiconductor device as recited in claim 1. The curing process taught by Lau et

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al., and referred to by the Examiner, has no relation to a pattern layer used in the creation of a gate electrodes as recited in claim 1. Instead, the cured film described by Lau et al. in col. 14, lines 23-50 is associated with a process for crosslinking polymers. The process described in col. 14 includes dissolving a polymer in a solvent and filtering the dissolved liquid on a glass plate. The coated plate is exposed to high temperatures for "curing" and forming a resulting film that may be peeled off the glass plate. Accordingly, Lau et al. does not teach, or even suggest, shrinking a low dielectric pattern that is formed on a multi-layered semiconductor device, as recited in claim 1. One of ordinary skill in the art would not have been motivated to combine the teachings of Lau et al. with the process taught by Ye et al. to teach the recitations of claim 1 because a teaching of a general curing of materials, including a polymer spun on a glass plate as disclosed by Lau et al., does not teach or suggest the shrinking of a low-dielectric pattern as recited in claim 1.

Because Ye et al. and Lau et al., alone or in combination, do not teach or suggest the recitations of claim 1, Applicants request that the rejection of this claim under 35 U.S.C. § 103(a) be withdrawn and the claim allowed.

Claim 6 includes recitations similar to those of claim 1. As explained, claim 1 is distinguishable from Ye et al. and Lau et al. Accordingly, claim 6 is also deemed allowable for the reasons set forth for claim 1 and Applicants request that the rejection of claim 6 under 35 U.S.C. § 103(a) be withdrawn and the claim allowed.

Claims 2-5 and 7-10 depend on claims 1 and 6, respectively. As explained, claims 1 and 6 are distinguishable from Ye et al. and Lau et al. Accordingly, claims 2-5 and 7-10 are also deemed allowable for the reasons set forth for claims 1 and 6 and Applicants request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn and the claims allowed.

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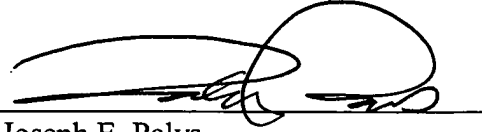
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Respectfully submitted,

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